



City of San Antonio

Agenda Memorandum

File Number:19-2273

Agenda Item Number: 20.

Agenda Date: 3/27/2019

In Control: Planning Commission

DEPARTMENT: Transportation & Capital Improvements

DEPARTMENT HEAD: Razi Hosseini, P.E., R.P.L.S.

COUNCIL DISTRICTS IMPACTED: Citywide

SUBJECT: Unified Development Code (UDC) Amendment to Adopt Atlas 14 Rainfall Data into the Storm Water Design Criteria Manual

SUMMARY:

An ordinance approving an amendment to Chapter 35 of the City of San Antonio Municipal Code, the Unified Development Code, to incorporate Atlas 14 rainfall data into the Storm Water Design Criteria Manual.

BACKGROUND INFORMATION:

Atlas 14 is a study of rainfall frequency and intensity. The most recent study (Atlas 14, Volume 11), which includes Texas, was published by the National Oceanic and Atmospheric Administration (NOAA) in September 2018. Transportation & Capital Improvements (TCI) proposes to implement Atlas 14 rainfall data through a Unified Development Code (UDC) Amendment to comply with federal and local standards that require the use of the best available data for drainage and floodplain design. The proposed amendment includes increasing design rainfall depths by 10-30% for the 100-year (1% annual chance) storm when compared to previously accepted studies.

TCI, in coordination with the Bexar Regional Watershed Management (BRWM) partnership and its Watershed Technical Committee (WTC), led a thorough stakeholder engagement process to assess the implications of implementing Atlas 14. The WTC included staff from TCI, Bexar County, and the San Antonio River Authority (SARA). The WTC discussed and reviewed impacts associated with flood risk reduction policies and programs, capital project development and delivery, land development, coordination with floodplain mapping efforts and implications for the community.

In the summer of 2018, TCI organized the Atlas 14 Land Development Stakeholder Group consisting of more than two dozen members, including representatives from TCI, Development Services Department (DSD), Texas Department of Transportation (TxDOT), Bexar County, SARA, Real Estate Council (RECSA), Professional Engineers in Private Practice (PEPP) and other engineering consultants of varying size, technical specialties, and regional presence. The group met officially seven times between August 2018 and February 2019 to discuss Atlas 14 implementation impacts and proposed UDC amendments. TCI also met with specific industry groups individually throughout the process.

During the initial meetings in 2018, the stakeholder group used preliminary Atlas 14 data to successfully reach a consensus on a framework for calculating average rainfall intensity values and for varying design rainfall depths across the region. On September 27, 2018, NOAA published the final Atlas 14, Volume 11 study. TCI and the WTC used the agreed upon framework and the final Atlas 14 study to recalculate the rainfall intensity values. TCI then developed the proposed a UDC amendment to incorporate the rainfall data frequency and depth tables and to establish rainfall areas across the region.

The impacts on capital and land development projects are highly dependent on not just the change in design rainfall, but also the topography of the area, the size of the infrastructure in place, and the location within a given watershed.

The Unified Development Code (UDC) is located in Chapter 35 of the City's Code. It includes regulations for the preparation of land in anticipation of development, such as subdivision platting and street and drainage design. TCI proposes to implement Atlas 14 rainfall data through a UDC Amendment in order to comply with federal and local standards that require the use of the best available data for drainage and floodplain design.

The proposed UDC amendment was reviewed and approved as follows:

- January 24, 2019- Community Health and Equity Committee
 - Briefing Only
- February 25, 2019- Planning Commission Technical Advisory Committee
 - Review and Approval
- March 27, 2019- Planning Commission
 - Public Hearing and Request for Approval (pending)

ISSUE:

This ordinance approves an amendment to Chapter 35 of the City of San Antonio Municipal Code, the Unified Development Code (UDC), to update the rainfall data in the Storm Water Design Criteria Manual.

Atlas 14 is a study of rainfall frequency and intensity. Transportation & Capital Improvements (TCI) proposes to implement Atlas 14 rainfall data through a UDC Amendment in order to comply with federal and local standards that require the use of the best available data for drainage and floodplain design. The proposed amendment includes increasing design rainfall depths by 10-30% for the 100-year (1% annual chance) storm when compared to previously accepted studies. The proposed amendment also provides a means to implement the use of the best available rainfall data in a usable data format for the local community.

Atlas 14, Volume 11 indicates that rainfall intensities for each storm frequency vary across the region. For the purposes of storm water design and analysis, the region will be broken into five (5) Precipitation Areas. The proposed amendment to the Storm Water Design Criteria Manual will establish the Precipitations Areas by adding a new figure (map) and design data for each of the areas. The five (5) Precipitation Areas are generally laid out laterally across the region, with Precipitation Area 1 at the northern end of the county and Precipitation Area 5 at the southern end of the county. Previously, the UDC had one (1) set of rainfall design tables for the

entire county. The proposed version will replace those with five (5) sets of tables to reflect the Precipitation Areas.

TCI has also drafted an Information Bulletin (IB) to facilitate the implementation of the UDC amendment. The IB is specifically related to floodplain analysis, phased developments and adverse impact analysis.

ALTERNATIVES:

Planning Commission or City Council could choose not to approve the amendment of the UDC at this time. However, the City code would then not reflect the best available rainfall data, which is required by federal and local standards. If the UDC is not updated, then future developments could be completed with undersized drainage infrastructure.

FISCAL IMPACT:

Approval of the UDC Amendment to implement Atlas 14 as best available data has no immediate fiscal impact to the City. However, implementation of data may increase costs to some capital and land development projects depending on watershed size, topography and additional factors. TCI is evaluating the impact of Atlas 14 rainfall data on 2017 bond projects and other capital projects. If a project requires a scope change based on the Atlas 14 rainfall data, additional funding may be required.

RECOMMENDATION:

Staff recommends approval of the UDC Amendment to incorporate Atlas 14, Volume 11 as best available data for drainage and floodplain design.